

Report from

The NIST logo is a stylized, blue-outlined representation of the letters "NIST". The "N" is formed by two vertical lines and a diagonal line. The "I" is a single vertical line. The "S" is a continuous, flowing shape. The "T" is a vertical line with a horizontal crossbar.

Lisa M. Nelson
Timing Subcommittee - CGSIC 35th
Meeting
Fairfax, VA
March 29, 2000

Topics

★ Glonass

□ Carrier Phase

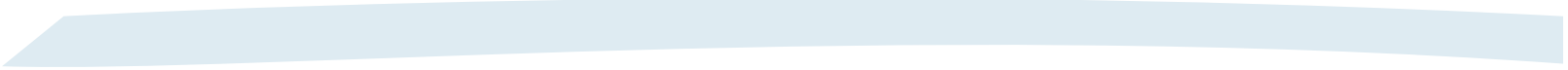
Glonass

- Data available via anonymous ftp to [clock.bldrdoc.gov](ftp://clock.bldrdoc.gov/pub/glonass) in the /pub/glonass directory
- Recent difficulties with receiver, began on Y2k rollover

Carrier Phase

- ★ Geodetic off-the-shelf receivers
 - Use carrier phase observations to estimate relative clock behavior at 6 minute intervals
 - Carrier phase time transfer has uncertainty of 100 ps and frequency uncertainty of 2×10^{-15} over a day
 - Calibration difficulties
 - Long Baseline Experiment in progress between PTB and NIST

COMPARISON OF ATOMIC FREQUENCY STANDARDS AT NIST AND PTB USING CARRIER-PHASE GPS

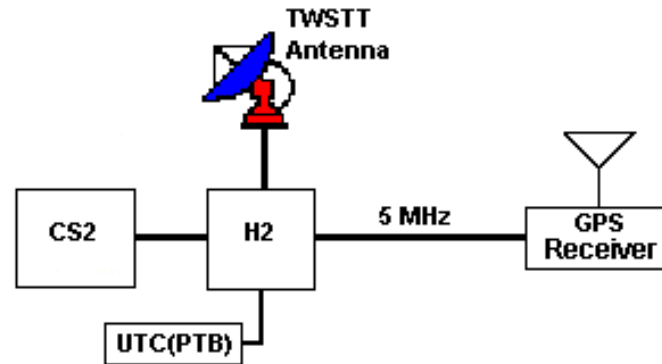


LISA NELSON, JUDAH LEVINE AND THOMAS PARKER, NIST,
KRISTINE LARSON, UNIVERSITY OF COLORADO,
PETER HETZEL AND JUERGEN BECKER, PTB

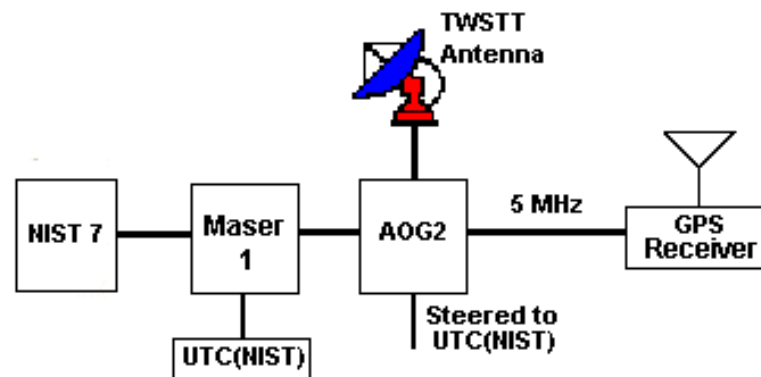
DECEMBER 1999 PTTI DANA POINT, CA

Configuration Block Diagrams

PTB CONFIGURATION



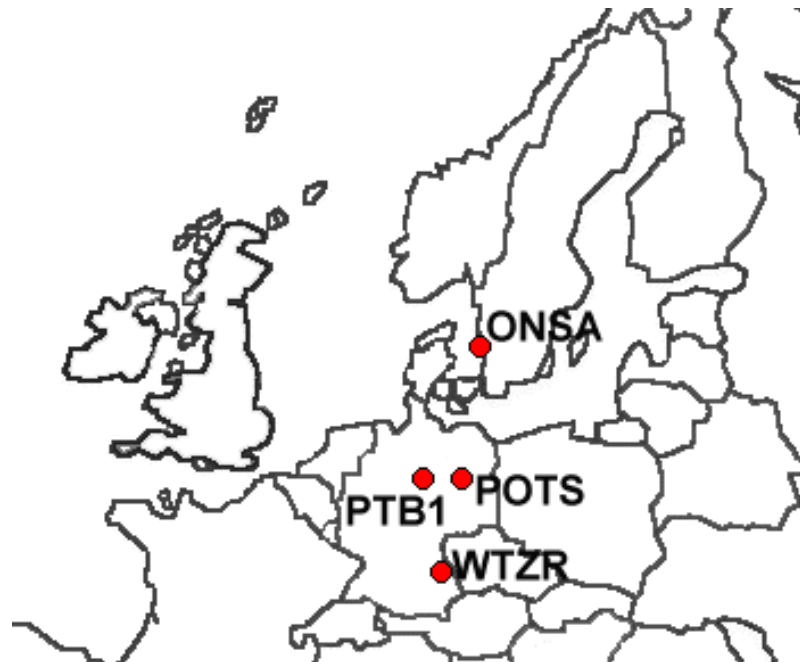
NIST CONFIGURATION



Network Station Locations

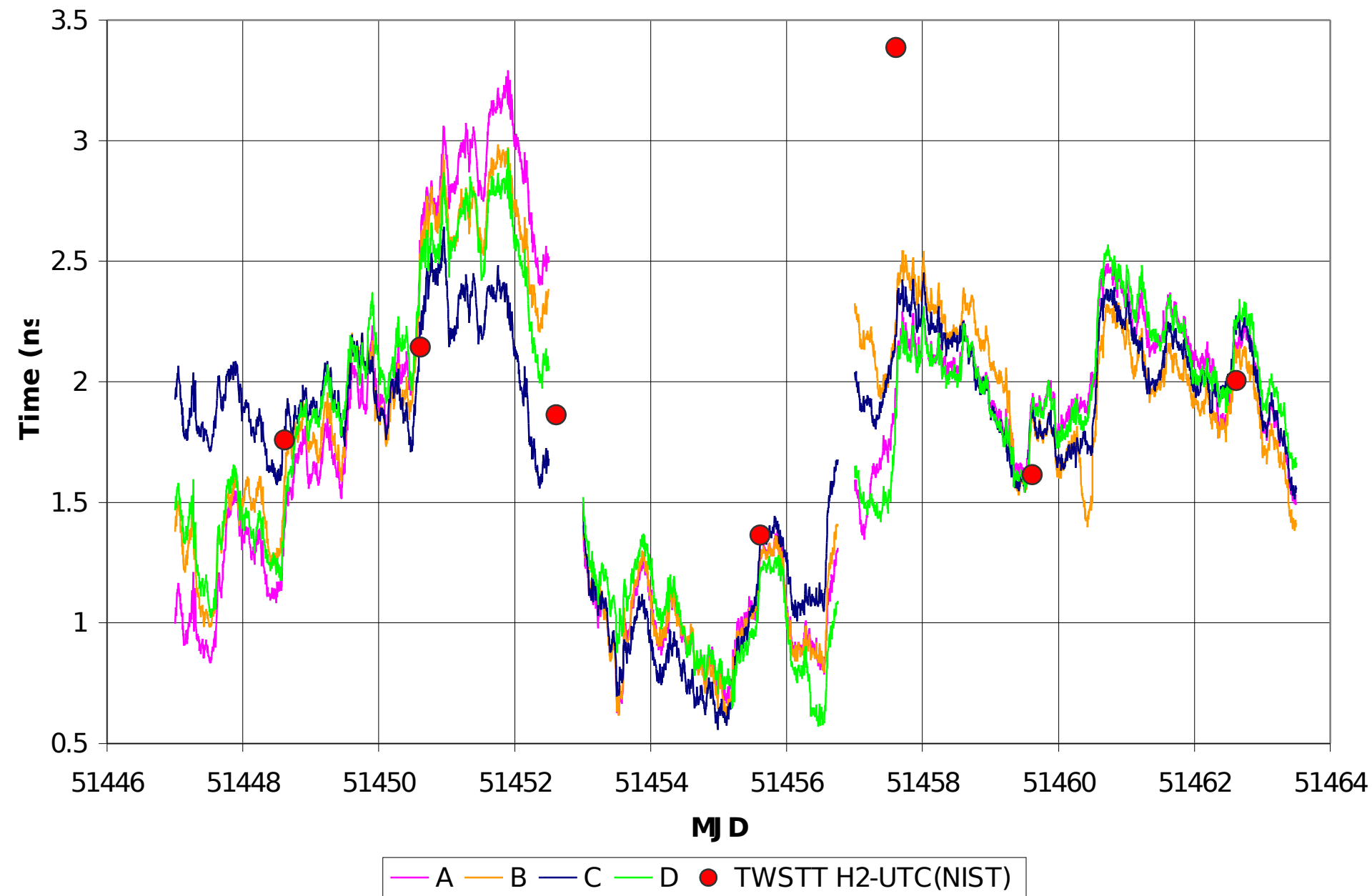


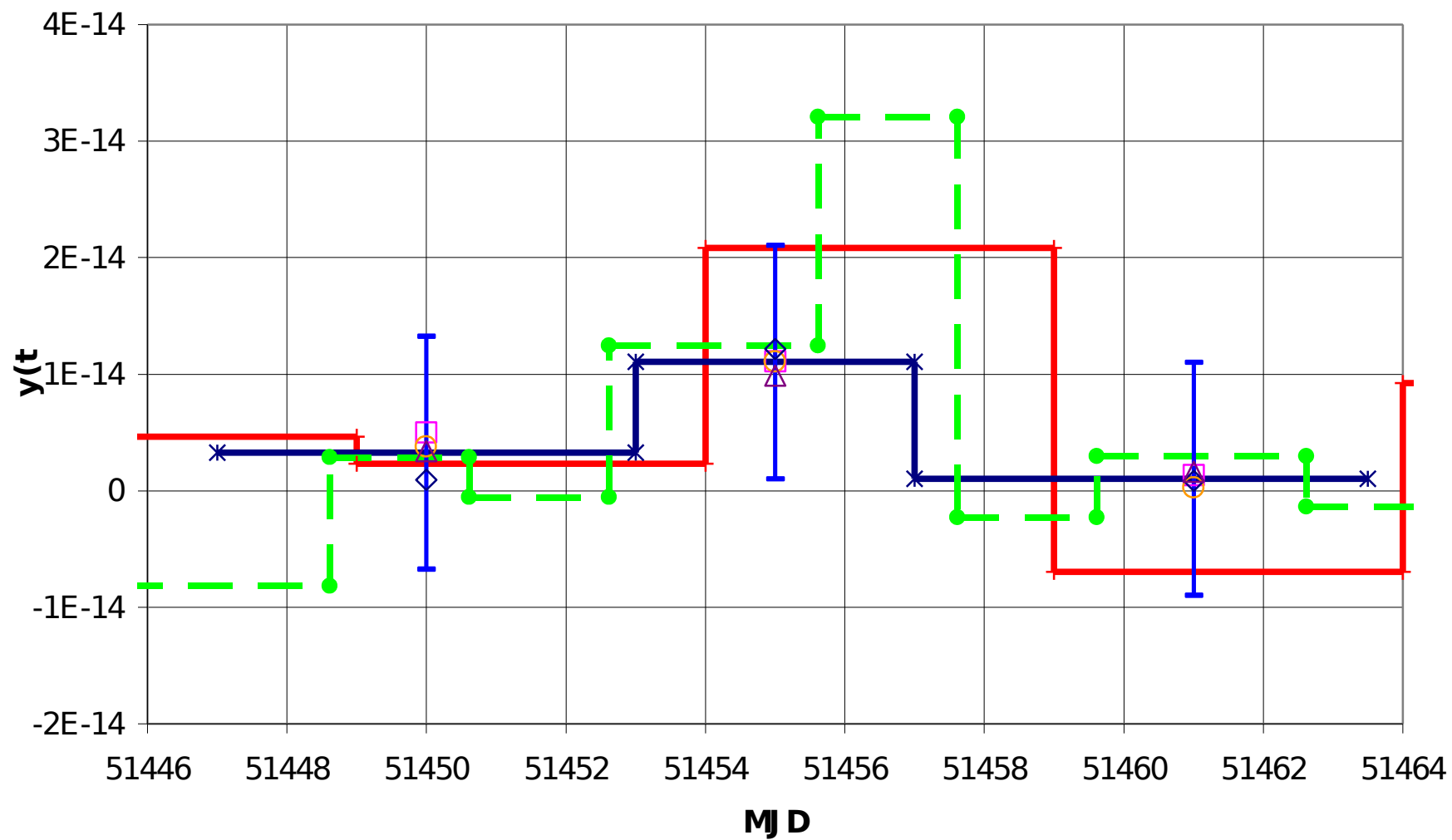
Network Station Locations

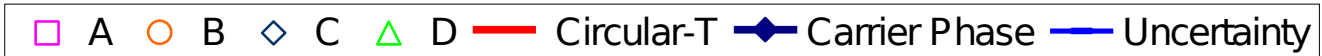
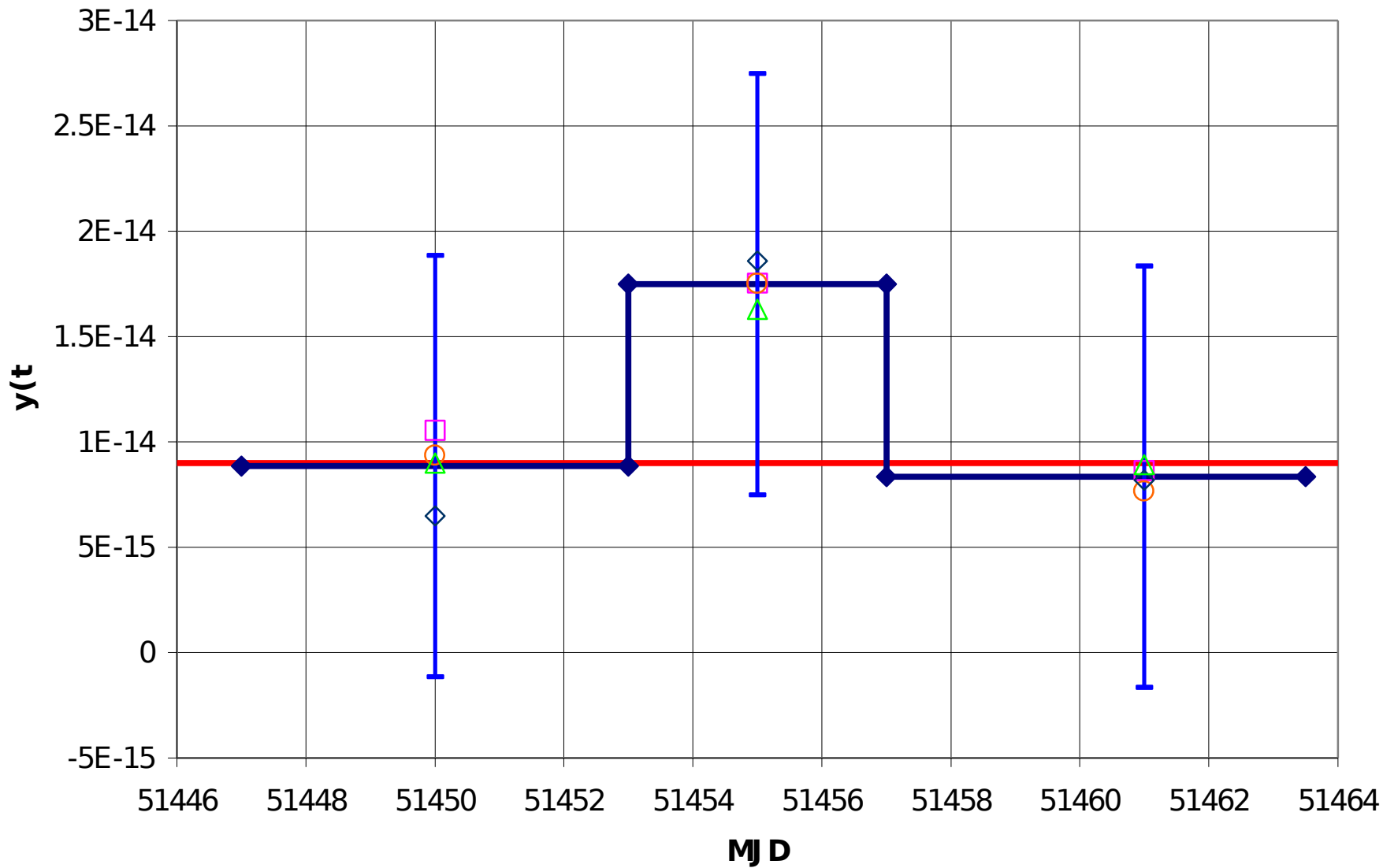


Network Names and Descriptions

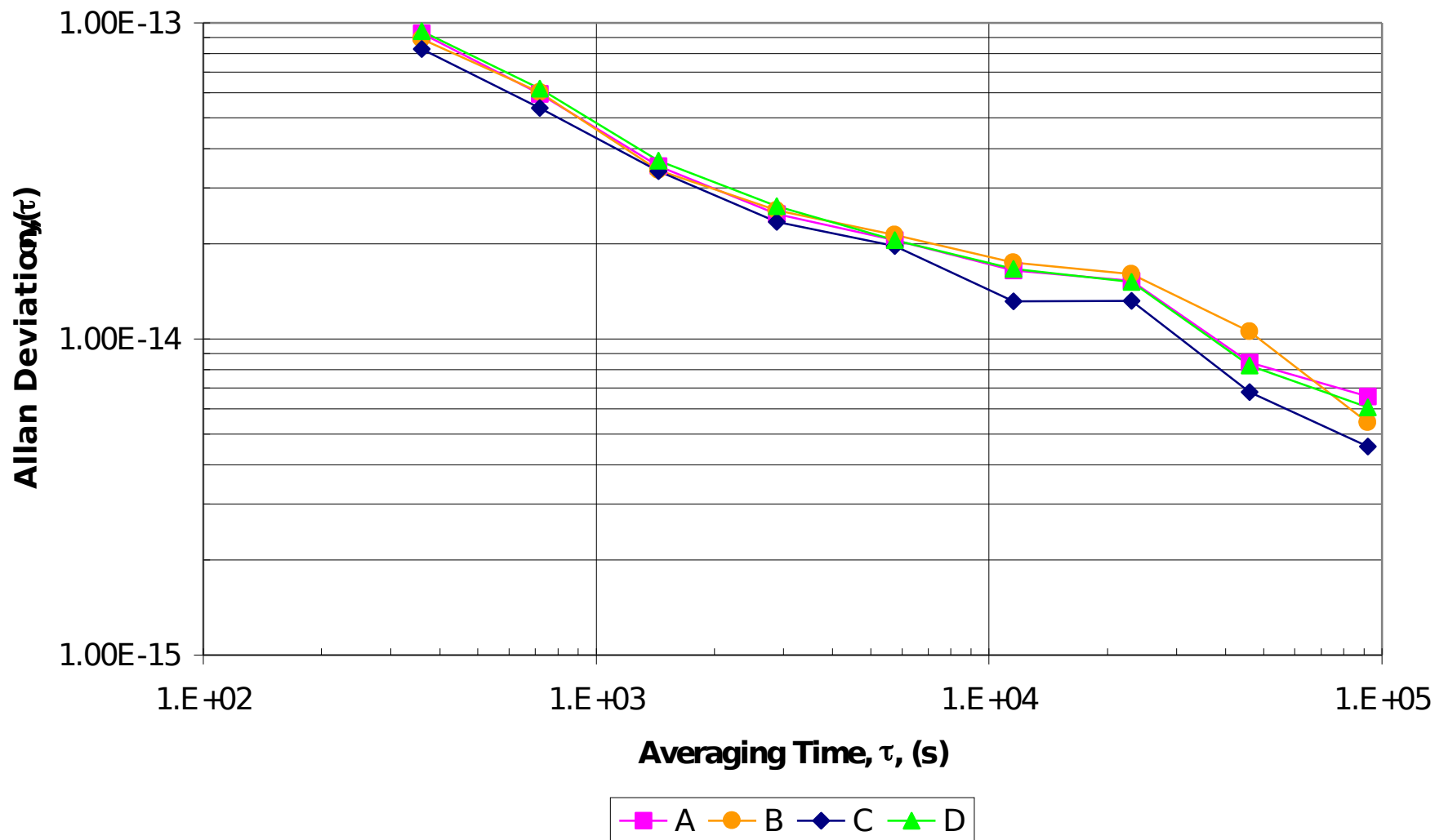
NETWORK NAME	STATIONS IN NETWORK
A	ALGO, NIS2, PTB1, TMGO, USNO, WTZR
B	ALGO, NIS2, POTS, PTB1, TMGO, USNO
C	ALGO, NIS2, PTB1, ONSA, TMGO, USNO
D	ALGO, NIS2, PTB1, TMGO, WTZR



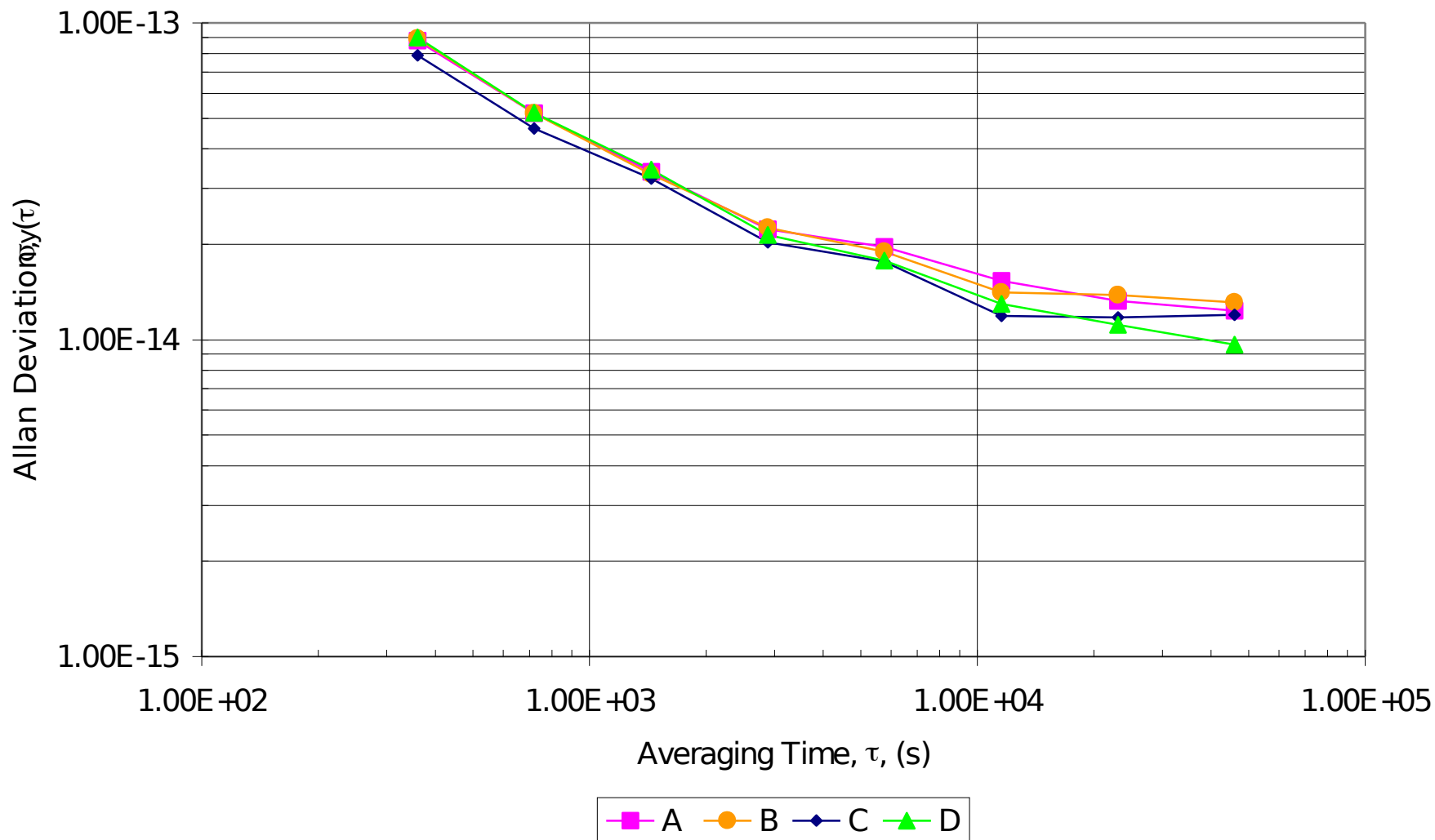




Allan Deviation Carrier Phase Data
MJ D 51447-51452

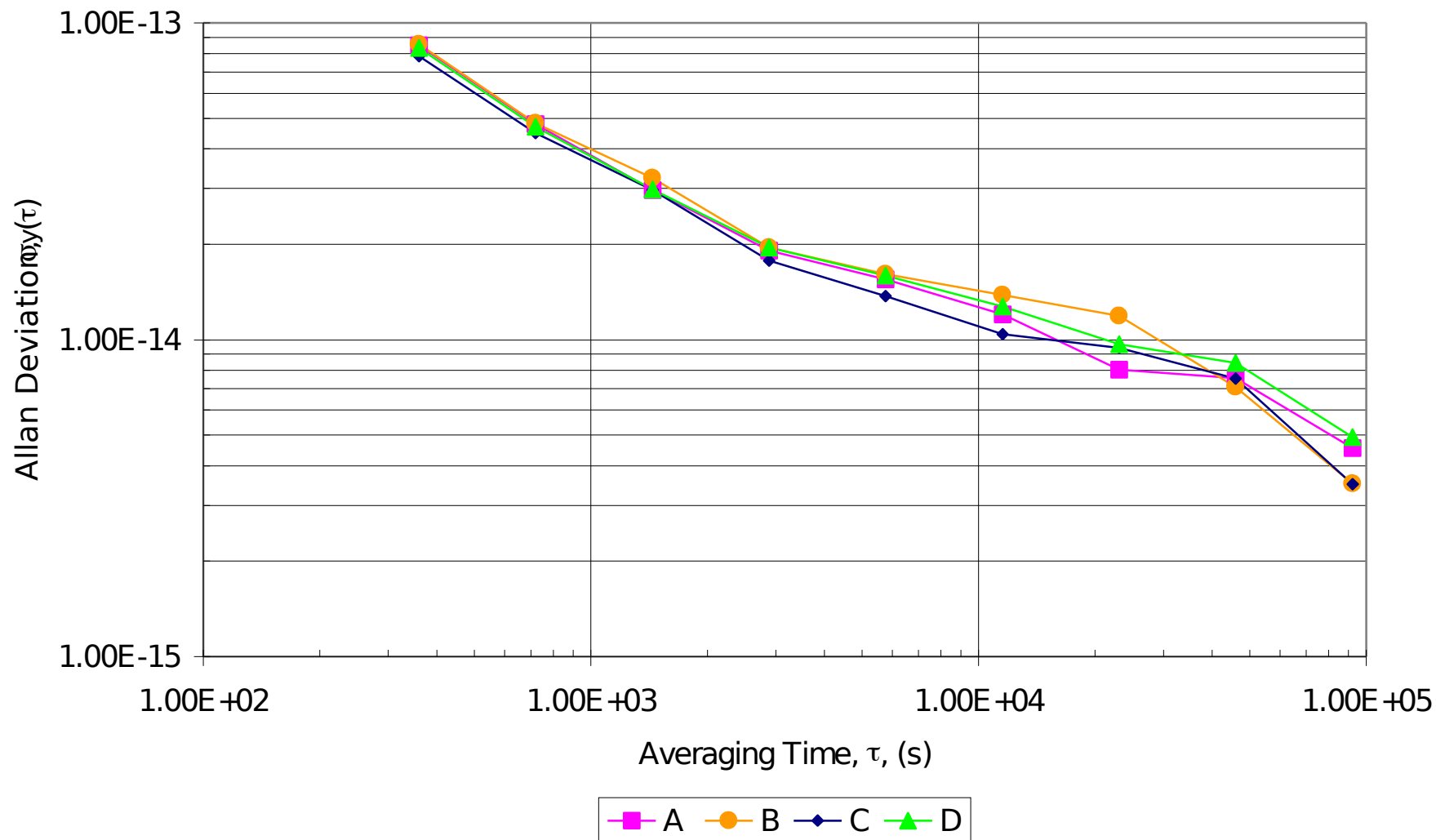


Allan Deviation Carrier Phase Data MJ D 51453-51457



Allan Deviation Carrier Phase Data

MJ D 51458-51464



Carrier-Phase Conclusions

- Discontinuities in carrier-phase analysis
and correction application
- Determine other error sources

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